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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,025

11/18/2003

Yoshiaki Ueda

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10/03/2005

Barry E. Bretschneider
Morrison & Foerster LLP
Suite 300
1650 Tysons Boulevard
McLean, VA 22102

EXAMINER

VAN ROY, TOD THOMAS

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

18

Office Action Summary	Application No. 10/715,025	Applicant(s) UEDA ET AL.	
	Examiner Tod T. Van Roy	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/18/03, 08/12/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figures 3-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 5822350) in view of Narui (US 6468820) and further in view of Saeki (US 6483127).

With respect to claims 1 and 5, Nishimura teaches a semiconductor laser comprising: an active layer (fig.13 #3); a first cladding layer (fig.13 #2) and a second cladding layer (fig.13 #4/41, p-type) arranged on both sides of the active layer; and a contact layer (fig.13 #5) located on the second cladding layer, wherein part of the second cladding layer and the contact layer constitutes a ridge portion (fig.13 #41 and #5), and the semiconductor laser device comprising: a light confinement layer (fig.13 #6, n-type), which is provided in a region other than an upper surface of the ridge portion of each of the second cladding layers and has a refractive index different from that of the second cladding layers (fig.13 #4/41-cladding-Al(0.5)Ga(0.5)As, #6-light confinement layer-Al(0.7)Ga(0.3)As, different material types so different refractive indices, col.2 lines 25-28); and a current blocking layer provided on the light confinement layer (fig.13 #7). Nishimura does not teach two lasers to be on the same substrate, or the use of a dielectric film. Narui teaches a laser device wherein two lasers are formed on the same

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substrate (fig.1h), and Saeki teaches a laser device wherein a dielectric layer is taught to be used as a current blocking layer (col.9 lines 10-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the laser device of Nishimura with the dual laser design of Narui in order to allow for a higher output power from a given laser device of the same material (more emitters), or the ability to perform multiple functions by utilizing two different materials, and two different wavelengths, as well as the use of the dielectric layer of Saeki to replace the GaAs current blocking layer (fig.13 #7) as these well known material types offer effective current blocking easily and precisely (Saeki, col.9 lines 15-17).

With respect to claims 2 and 3, Nishimura, Narui, and Saeki teach the laser device as outlined in the rejection to claim 1, and further teach that the dielectric film functions as a current constriction, and insulation, layer that flows no current in portions other than the ridge portion (Nishimura, col.1 lines 35-36, #7 taught to be current blocking, and would only allow current to flow into the ridge on fig.13, Saeki's dielectric taught to perform the same blocking function, col.9 lines 10-17).

With respect to claim 4, Nishimura, Narui, and Saeki teach the laser device as outlined in the rejection to claim 1, and Nishimura further teaches the current blocking layer to have a thickness not greater than .5um (col.1 lines 39-40, .5um).

With respect to claim 6, Nishimura, Narui, and Saeki teach the laser device as outlined in the rejection to claim 1, and Nishimura further teaches the light confinement layer to be current blocking (col.1 lines 34-35). Nishimura does not teach the layer to be of a resistance value not less than 100 ohm-cm. It would have been obvious to one of

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ordinary skill in the art at the time of the invention to adjust the resistance of the light confinement, and current restricting, layer to 100 ohm-cm since it has been deemed not inventive to discover the optimum or workable ranges by routine experimentation (see MPEP- 2144.05 II A, In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235(CCPA 1955)).

With respect to claim 7, Nishimura, Narui, and Saeki teach the laser device as outlined in the rejection to claim 1, and Nishimura further teaches the light confinement layer to function as a loss guide that absorbs light from the active layer and confines light in the second cladding layer (col.2 lines 25-31, 38-50).

With respect to claim 8, Nishimura, Narui, and Saeki teach the laser device as outlined in the rejection to claim 1, and Nishimura further teaches the light confinement layer to be of a thickness not greater than 2um (col.1 lines 38-39, 1.3um).

Claim 9 is rejected for the same reason as claim 1. This claim merely details the methods of forming the device. The method of forming a device is not germane to the patentability of the device itself, therefore these limitations are not given patentable weight. At best this claim could be characterized as product-by-process claim, where the process limitations are not limiting, only the structure implied by the process. See MPEP 2113. Here, the structure implied by the process steps is merely the structure of claim 1.

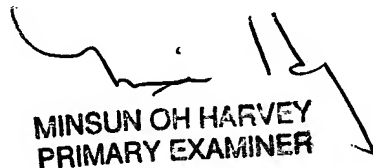
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR


MINSUN OH HARVEY
PRIMARY EXAMINER